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People are not able to unify classic physics and quantum physics yet, not able to unify physical sciences and life sciences, or physical sciences and intelligence sciences, or life sciences and intelligence sciences, etc.

So, some laws in life sciences or intelligence sciences could not be simplified as physical sciences from humans. There are severe problems in human concepts like God's computer or God's time, etc.

I wrote some comments about professor Gerard't Hooft's "Free Will in the Theory of Everything" in the email below. What are your opinions about these?

Google admits LaMDA is not sentient. Are Google Brain and Waymo driverless cars sentient sufficiently?

There are severe problems in the definitions of Driving Automation standards. Better definitions and more effective testing are needed, which are possible only if some fundamental researches have been done first.

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From: lifan gu <gulifan@hotmail.com>  
Sent: Monday, December 26, 2022 6:41 PM  
To: Hooft, G.'t (Gerard) <g.thooft@uu.nl>  
Cc: lifan gu <gulifan@hotmail.com>  
Subject: Re: Re: Scientific Logic and Free Will

Dear Professor Gerard't Hooft,

I could divide the studies into three stages:

1. A specific new survey of brain and intelligence studies;
2. Based on my theories and the survey, develop functional structures of human intelligence, with CONTINUITY, and possibly other degrees of freedom;
3. Study in these functional structures, what can and what cannot be done by electronic computers and quantum computers, which would allow AI and human education to focus on own correct directions.

Many people in industries might like to jump on conclusions and be eager to attack my opinions. They could fund their projects to prove their claims in stage three.

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From: lifan gu <gulifan@hotmail.com>  
Sent: Monday, December 26, 2022 3:53 PM  
To: Hooft, G. 't (Gerard) <g.thooft@uu.nl>

Cc: lifan gu <gulifan@hotmail.com>  
Subject: Re: Scientific Logic and Free Will

Dear Professor Gerard't Hooft,

Thank you for your response!

In scientific discussions, I use the word God in a way similar as you.

Humans typically do not think themselves as puppets. They think and behave actually with a hidden assumption that free will does exist.

Is it fair that these who claim free will exists do not need additional evidences, however those who claim free will does not exist need sufficient evidences?

Anyway, it is difficult to exclude free will. We do not see life in elementary particles. Free will could have physical mechanisms in additional dimensions, or below Plank scale, etc.

It is more practical to analyze the possible structures:

We know that Non-Player Character in computer games does not have free will. We could add certain new degrees of freedom to see whether they generate some important intelligences.

Before this, we need understand what are important intelligences. A new specific survey of brain and intelligence studies could help. Human Brain project needs a better goal.

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From: lifan gu <gulifan@hotmail.com>  
Sent: Wednesday, December 21, 2022 6:12 AM  
To: g.thooft@uu.nl <g.thooft@uu.nl>  
Cc: lifan gu <gulifan@hotmail.com>  
Subject: Scientific Logic and Free Will

Dear Professor Gerard 't Hooft,

I saw your article Free Will in the Theory of Everything, and like to see what we could agree with.

Do you agree that this article is just like a blind man feels an elephant? Especially because in your Rules #6 and #7, you used languages like God's computer and computer program. When talking about God, we should avoid any traps or narrow mindsets like Turing Machine or computers. God's mind should be much greater than

an elephant, a computer, or any types of Turing Machine.

I agree with that Free Will cannot be derived from current physical theories from human. However, this does not exclude the possibilities of Free Will. Actually, the life evolution theory cannot be derived from current physical theories from human, even classical physics or relativistic physics cannot be derived from current quantum physics from human yet.

In your Demand #2, you talked about causality, which needs to separate past from future. Could human understand God's time ?

In your Demand #3 "Not all events in the past, but only a few of them should dictate an event in the presence". Could human fully understand God's selection?

When talking about logic, we need understand the problems in various mathematical logics and philosophical logics, and develop a new scientific logic to understand the powers and limits of human sciences. Scientific logic should study the possible structures of Free Will and design experiments about it.

Human intelligence experiences the development from *Historia Naturalis* to *Philosophiae Naturalis*, and to *Scientia Naturalis*. Unfortunately, current testing of artificial intelligence, including driverless cars, is based on historical methods, which would cause severe problems in future.

Thank you for mentioning that after most quantum transformations, reality is replaced by the more abstract notion of a wave function, which regains continuity.

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Deep Learning  BRAIN initiative  LaMDA  BlenderBot3  Google Assistant

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